MEDICAL PAPERS.

An Account of the Diſſection of three Perſons who died of the Malignant Epidemic that prevailed in Boſton, in the Summer of 1798. *By* ISAAC RAND *and* JOHN WARREN, *M.D. F.A.A.*

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THE great advantage to be derived to mankind from an inſpection of the bodies of ſuch as have died of ſo formidable an epidemic as the yellow fever, muſt be obvious to all. The following caſes of diſſection may throw ſome light on the nature of the diſeaſe as it prevails in this town, and may, we hope, be of ſome uſe in inveſtigating the treatment beſt adapted to the purpoſe of checking or ſuppreſſing its deſtructive ravages.

The firſt caſe was of a man, who died on the ſixth day from the ſeizure, and as no application was made to a phyſician till the firſt ſtage of the diſeaſe had nearly expired, the ſtate of the organs may be conſidered in a great meaſure as the natural effect of the diſeaſe, undiſturbed by art.

In the cavity of the cheſt, the lungs were remarkably affected; they contained an uncommon quantity of dark blood in their veſſels, which rendered them apparently more denſe than

uſual; the veſicles not being diſtended with air, and their ſubſtance conſequently leſs compreſſible than uſual. The poſterior part of both lobes was extremely livid, and in the cavities of the thorax was contained a large portion of extravaſated blood, firmly coagulated, to the quantity of eight or ten ounces, as nearly as could be eſtimated.

The pericardium contained as much as two or three ounces of fluid blood. The heart was of its uſual ſize; but the coronary veins were ſo diſtended with blood, as to exhibit the appearance of a moſt ſucceſsful injection. In the cavity of the abdomen, the part moſt conſpicuouſly morbid was the liver. This organ appeared to be much inflamed both on its convex and concave ſurface; its ſubſtance was much indurated, and, on cutting, reſembled in colour, a boiled liver. The gall bladder was contracted to a very ſmall ſize, and contained not more than a quarter of an ounce of a thick, glutinous, and almoſt inſpiſſated ſubſtance, reſembling pitch. There were no marks of any conſiderable quantity of the bile having been lately contained in the ſack, and none of the neighbouring parts had the leaſt tinge that denoted its preſence. On cutting through the ductus communis choledochus, no bile iſſued from the aperture; the hepatic duct had alſo evidently for ſome time ceaſed to tranſmit its fluid from the liver. The ſtomach exhibited an enormous diſtenſion of its veins, eſpecially round the pylorus, and had every mark of great inflammation. The inteſtines, in general, were in the ſame ſtate with the ſtomach; the ſmaller were conſiderably diſtended, and the larger contracted.

tracted. The ſpleen was uncommonly turgid, but in other reſpects in its natural ſtate. The peritonæum on the under ſide of the diaphragm, and the pleura on the upper, bore the veſtiges of inflammation, but no other parts of thoſe membranes appeared to have been diſeaſed.

The omentum was conſiderably thickened, and from the turgeſcence of its blood veſſels, of a colour unuſually dark. There were no appearances in the thoracic or abdominal viſcera, of ſuppuration, nor was any degree of fetor perceived to ariſe from them; nor was there the leaſt mark of incipient putrefaction in any part of the body. It may be proper to remark on this caſe, that in every ſtage of the diſeaſe, the diſcharges from the bowels were of the colour and conſiſtence of water gruel, excepting a few evacuations of a matter ſimilar to what is called the black vomit; and that this uſually fatal ſymptom had alſo preceded the patient's death on the fourth day of the diſeaſe.

The ſecond caſe. The ſubject of this diſſection was the body of a perſon who died on the 12th day from the attack, with ſymptoms of the mixed kind; a remiſſion of the diſeaſe had taken place, at the period uſually critical, upon which, on the ſixth day, a delirium enſued, and continued to the moment of fatal termination.

On opening the cranium, the brain was found to have its veſſels aſtoniſhingly diſtended with blood, an ounce or two of ſerum was effuſed between the dura and pia mater. Under the

the ſagittal ſuture, and by the ſides of the longitudinal ſinus, where the large veins terminate in that cavity, a lymphatic band, about an inch wide, extending nearly the whole length of the ſinus, was formed by the coagulable lymph, which had been effuſed from the blood veſſels, by the violence of the preceding inflammation, and this ſubſtance had ſerved as a medium of adheſion, between the dura and pia mater in that part.

The lungs adhered very firmly to the pleura on the right ſide, and appeared poſteriorly to have been much inflamed, and in ſome parts to be indurated in portions of about the ſize of a pigeon's egg. The left lobe adhered ſo firmly to the pleura, as not to be ſeparated but by tearing the ſubſtance of the lungs which here appeared extremely diſeaſed, and in a ſtate of actual ſuppuration throughout its whole ſubſtance. The heart was in its natural ſtate. The liver was much enlarged, and in a ſtate that denoted a high degree of inflammation ; the convex ſurface of the great lobe near the gall bladder exhibiting marks of extravaſation, as if violently contuſed. The gall bladder was full of bile, and the ducts pervious.

The ſtomach was nearly in its natural ſtate ; but, on the inſide, the ſurface of the villous coat was beſmeared with a matter which ſeemed to be of the ſame nature with the black vomit, though nothing of this kind had been ejected in the courſe of the diſeaſe.

The duodenum was much inflamed for ſeveral inches from its commencement at the ſtomach, and the whole tract of the ſmaller

ſmaller inteſtines was in the ſame ſtate. The urinary bladder was contracted to the ſize of a pullet's egg, and its inner coat appeared to have been in a high ſtate of inflammation, the veſſels having been diſtended to ſuch a degree as to have ſuffered a rupture, and to have effuſed a quantity of blood into the cavity of this organ.

The ſtate of the lungs in this ſubject was probably the conſequence chiefly of a previous diſeaſe, independent of that which proved fatal. An affection of the lungs had ſome time exiſted, whilſt the ſubject was, in other reſpects, in tolerable health, and in the purſuit of his buſineſs; ſo that a pulmonary conſumption would, in all probability, have ſhortly put a period to his life, had the diſeaſe of which he died never overtaken him.

The third caſe. In this inſtance the diſeaſe terminated fatally on the fourth day.

Upon opening the thorax, the lungs diſcovered marks of inflammation, anteriorly, and were extremely gorged with blood, in the poſterior part of their reſpective lobes.

The liver exhibited marks of inflammation, eſpecially on its concave ſide and poſterior part; its texture was altered, and of a very denſe conſiſtence. The gall bladder was completely obliterated, its coats having coaleſced with the contiguous parts, ſo as to form with them one confuſed membranous ſubſtance. The ſtomach was externally, to appearance, in a natural ſtate, but its inner coat was covered with that black coloured fluid, denominated the black vomit.

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The colon in ſome parts had been much inflamed, as well as part of the omentum, which was attached to this inteſtine.

It is worthy of remark, that in both the caſes where the gall bladder had been diſeaſed, and ceaſed to perform its functions, or if the liver had been rendered incapable of ſecreting the bile, the body became yellow before death; whereas, in the other, where the bile was found in due quantity, this circumſtance did not occur.

From the above diſſections, which evinced a deficiency of ſecretion in the biliary organs, the indications of cure ſeemed to be directed towards a courſe, which might obviate the inflammation in general of the organs diſeaſed, and open the excretory ducts of the liver, that the fluid might reſume its courſe into the inteſtines.

It is with the higheſt degree of pleaſure that we communicate to the public our hopes, that after proper evacuations, the uſe of calomel may be found to anſwer theſe important purpoſes. This medicine has been accordingly uſed with much ſucceſs in fifteen patients, within eighteen days, all of whom, excepting one, have recovered, or have paſt the dangerous period. It has been given not in the uſual doſes, for the purpoſe of an evacuant by the inteſtines, but in ſmall doſes of one, two, or three grains, every hour or two, ſo as to produce a ſalivation as ſoon as poſſible; with this view, from one hundred to two hundred and thirty grains of calomel have been given in the courſe of three or four days, commencing the uſe of it immediately

diately after the firſt copious evacuations by bleeding and purging; and, in every inſtance, as the ſalivation came on, the diſeaſe abated.

Coinciding in ſentiment reſpecting the uſe of mercury, ſo as to produce a ſalivation, we with pleaſure mention the learned Dr. Ruſh of Philadelphia. But the method is more explicitly and highly recommended by James Clark, M.D. F.R.S.E. in a treatiſe on the yellow fever, as it appeared in the iſland of Dominica, in the years 1790, 94, 95, and 96.

The Doctor recommends the free uſe of mercury, both as a remedy and preventative; and ſays, "the officers of the army and navy, who have leiſure and can be prevailed upon, on their arrival in the Weſt Indies, to undergo one or two courſes of mercury, take a few laxative medicines, after confining themſelves to a moderate uſe of wine, and living chiefly on vegetables and fruits for the firſt two months after their arrival, may rely, almoſt to a certainty, on eſcaping the fever.

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